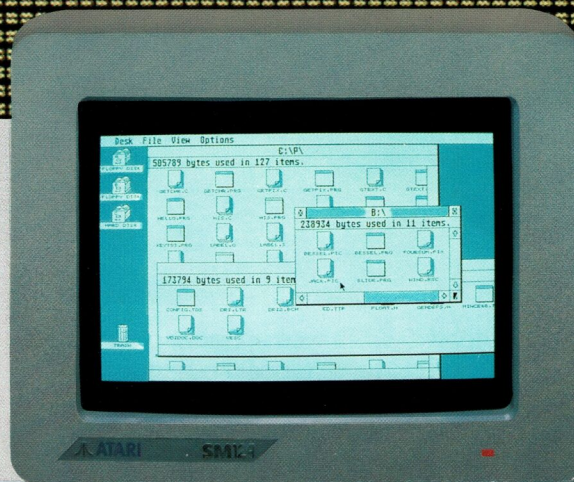
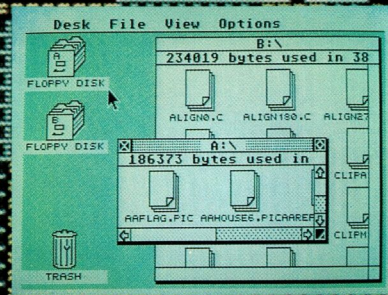


ATARI®

520ST™  
COMPUTER SYSTEM







The Atari 520ST System represents a new concept in personal computing. Power, performance, and speed are matched by the system's price and ease of use.

The 520ST is the best looking, best feeling, best performing computer system available anywhere. Complete with a two-button mouse, 3.5 inch disk drive, high-resolution monochrome paper white monitor or dazzling RGB color monitor, TOS™ Operating System, GEM™ Desktop, plus ST Logo™ and BASIC, Atari delivers technical sophistication at a revolutionary price.

## HARDWARE ARCHITECTURE

The design of the ST System represents a major advance in computer technology. At the heart of the 520ST is the 68000 microprocessor. This ultra-powerful 16-bit microprocessor uses a 32-bit internal architecture and runs at a full 8 MHz. Supporting the processor are four custom designed chips handling graphics, high-speed disk access, system timing, error detection, and memory control. For increased reliability, the 520ST custom chip set has been designed to replace 305 components. Along with the main microprocessor and the four custom chips are 512Kbytes of RAM, 192Kbytes of ROM, and a multi-voice sound chip.

The exterior design of the 520ST is an expression of its technology and ease of use. Its 95-key ergonomic keyboard is divided into four main areas: Main

QWERTY typing area, ten programmable function keys, editing section with Help, Undo, Insert, Clear, and four cursor control keys, plus a numeric keypad for spreadsheet, accounting, and other number intensive projects.

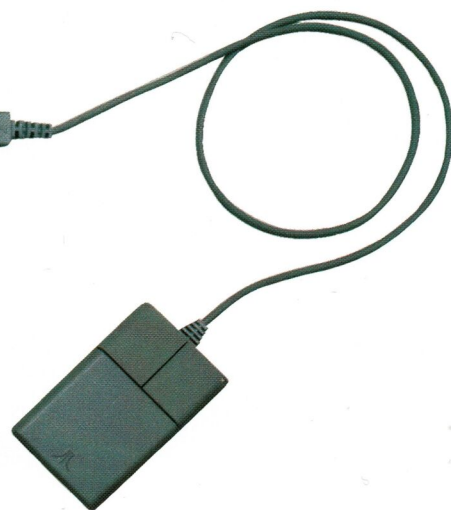
## EXPANSION

An inherent part of the powerful 520ST is its expandability. The com-



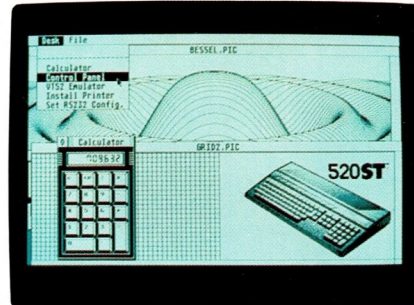
puter comes with an array of built-in ports. The left side houses a 128K ROM cartridge slot. The right side houses two joystick ports, one of which is used as the mouse port. The rear panel contains the power in, MIDI in, MIDI out, video, parallel printer, RS232 serial, floppy disk, and hard disk ports.

MIDI is a standard interface designed to allow synthesizers and other electronic musical instruments to communicate with each other. The MIDI ports open up a world of musical applications. Imagine a computerized music instructor that lets you know when you hit a wrong note and then works



with you at your own speed. Also, with the ST System you can create a sophisticated computerized recording studio. Musical tracks can be recorded, edited, and then played back when they're perfect. MIDI can also be used as a local area network for 520ST's.

The ST's printer port supports an industry standard parallel interface. This

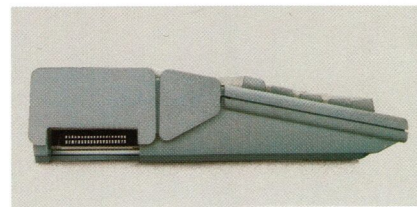


connector is identical to those on many leading, higher-priced PC's. This means that your ST is compatible with a wide range of popular printers, including Atari's own.

Communication with other computer systems, data bases, and special function peripherals is supported by the RS232 port. To quickly put this interface to work, the 520ST includes a VT™-52 emulator package. With the VT™-52, the ST can function as a terminal on mainframe computers, a controller for serial devices, and a telecomputing port for remote data bases such as CompuServe™ and Dow Jones™.



# THE ATARI 520ST COMPUTER SYSTEM



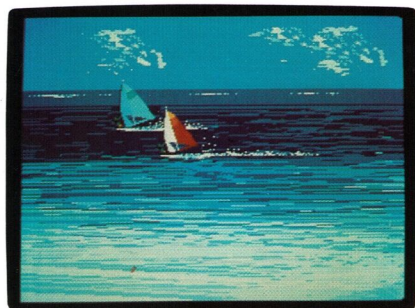
Disk drives and hard disks are easily accessible through a very high-speed DMA channel linked to both the floppy disk and hard disk ports. ST series 3.5 inch floppy disk drives provide a storage capacity of 360 kilobytes in the SF354™ drive or 720 kilobytes in the SF314™ drive. For larger applications, the ST's hard disk port supports a variety of hard disk drives with storage

to the Virtual Device Interface rather than having to go directly to the hardware. Programs that are written to GEM will still work with future memory, color, or graphic enhancements to your system. And GEM's complete graphic tool kit makes it a snap for programmers to take full advantage of the system's capabilities without tedious coding.

## APPLICATIONS SOFTWARE

The Atari 520ST personal computer is a system with unlimited potential. Whether you're a busy executive, a student, or a hobbyist, the ST can accomplish virtually anything you want a personal computer to do.

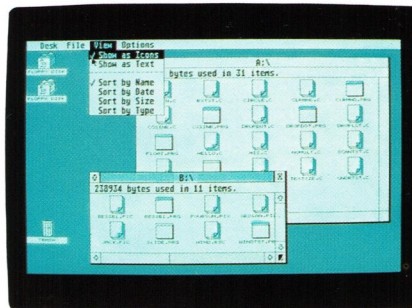
When you combine effortless mouse control, common sense graphic symbols, and on-screen menu directories, even the most detailed application software becomes a breeze to handle. For executives and college-level students there are word processors, spread sheets, business graphics, data base managers, and other productivity packages. School students can use computing languages and computer-aided instruction packages. There are also painting programs, drawing programs, and a multitude of entertainment programs. The Atari 520ST is truly the computer for everyone, with software for business, education, home applications, and entertainment.



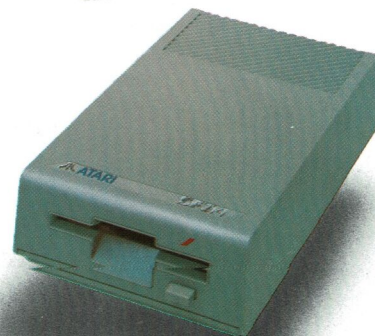
capacities in excess of 10 megabytes, and transfers data at an incredible 1.33 megabytes per second.

## SYSTEM SOFTWARE

Complementing the high performance hardware of the 520ST is a powerful, operating environment. Working with the computer is especially easy because of its user friendly GEM graphics interface. GEM, the Graphics Environment Manager designed by Digital Research, makes it effortless for a novice to do all the usual housekeeping chores, as well as calling up programs from a disk. In addition, GEM makes the job easier for the applications programmer. By using GEM, a programmer can write



Graphic images on the GEM Desktop represent such familiar office accessories as a waste basket, file cabinets, and files. To work with these objects, simply "point and click" the mouse. A pointer on the screen is controlled by moving the mouse. When the pointer gets to the item you want, just "click" the mouse button. It's that easy! GEM lets you move windows instantly, pull down menus, resize window images, change the color palette, install a variety of printers, copy files, and even "trash" them. Copying files with GEM is simply a matter of moving a file icon with your mouse from one disk directory window to another. A "touch" of simplicity.





# SPECIFICATIONS

	ATARI™ 520 ST	IBM™ PCAT™	APPLE™ MACINTOSH™	COMMODORE™ AMIGA™
Price	\$799	\$4675	\$2795	\$1795
CPU	68000	80286	68000	68000
Speed MHz	8.0	6.0	7.83	7.16
Standard RAM	512K	256K	512K	256K
Number of Keys	95	95	59	89
Mouse	YES	NO	YES	YES
Screen Resolution	(NON-INTERLACED MODE)			
Color	640X200	640X200	NONE	640X200***
Monochrome	640X400	720X350**	512X342	640X200***
Color Output	YES	OPTIONAL	NONE	YES
Number of Colors	512	16	NONE	4096
Disk Drive	3.5"	5.25"	3.5"	3.5"
Built-in Hard Disk				
(DMA) Port	YES	YES	NO	NO
MIDI Interface	YES	NO	NO	NO
No. of Sound Voices	3	1	4	4

\*\* WITH OPTIONAL MONOCHROME BOARD NON BIT-MAPPED  
\*\*\* INTERLACE MODE - 640X400

## ARCHITECTURE

### Processor

CPU: Motorola 68000 running at 8 MHz  
Bus: 16-bit external 32-bit internal 24-bit address  
Registers: 8x32-bit data and address  
Interrupts: 7 levels  
Instructions: 56  
Addressing modes: 14  
Data types: 5  
Real-time clock: standard

### Memory

RAM: 512K  
ROM: up to 192K  
Cartridge: 128Kbytes external plug-in ROM  
(additional to internal ROM)

### Storage

Floppy-Standard 3.5-inch floppy disk via DMA  
Drive capacity: 360K or 720K (formatted)  
Data transfer rate: 250K bits/s  
Average access time: 96ms  
Step time: 3ms track to track  
2nd drive optional  
Hard Disk-DMA interface built into 520ST  
Data transfer rate: 1.33M bytes/s (continuous)

## GRAPHICS / VIDEO

### Bit Mapped

Full bit mapped display

### Monochrome

640 x 400 pixels  
Video: 1.0Vp.p, 75Ω  
Sync: Separate, 5VDC, 3.3KΩ  
Horizontal: 35.7 KHz  
Vertical: 71.2 Hz

### Color

640 x 200 pixels x 4 colors  
320 x 200 pixels x 16 colors  
Palette size: 512 colors  
Video: R,G,B 1.0V p.p, 75Ω, linear  
Sync: Separate, 5VDC, 3.3KΩ  
Horizontal: 15.75 KHz  
Vertical: 60 Hz

## USER INTERFACE

### Keyboard

Standard QWERTY typewriter format  
Separate numeric keypad and cursor key cluster  
Low profile, sculptured ergonomic design  
Programmable auto repeat characteristics  
Full travel keys with "feel" and audible feedback  
95 keys/10 function keys  
Keyboard processor (6301) to reduce CPU overhead

### Mouse

2-button control  
High precision, non-slip ball motion-sensor  
Removable ball for easy cleaning

### Sound

3 programmable sound channels  
Frequency programmable 30 Hz to 125 KHz  
Programmable volume  
Dynamic envelope shaping  
Wave shaping  
Programmable attack, decay, sustain, release  
Audio out: 1.0V peak to peak, 10KΩ  
External audio in: 1.0V peak to peak, 10KΩ  
VT52 terminal emulation 4A modem port

## INPUT / OUTPUT PORTS

### Printer

Industry Standard Parallel  
25 pin D-type connector  
Strobe/Busy support

### Modem

RS232-C standard (DTE)  
50 - 19,200 Baud  
RTS/CTS/Signal Detect/DTR/RI  
25 pin D type connector

### MIDI (Musical Instrument Digital Interface)

2 ports: MIDI IN, MIDI OUT/THROUGH  
31.25K Baud  
Optically isolated receiver  
5 pin din connectors

### Joystick / Mouse

2 ports  
Dedicated ATARI joystick port  
Combination mouse/joystick port  
9-pin D type connectors

## OPERATING SYSTEM

TOS™ with GEM operating environment  
Hierarchical filing with sub-directories and path names  
User interface via GEM, with self-explanatory command functions  
Icons  
Multi-windowing  
Window re-sizing/re-positioning/erasing  
Drop-down menus (selected by mouse)  
GEM virtual device interface

## STANDARD SOFTWARE

TOS™ operating system  
GEM Desktop  
ST BASIC interpreter/language system  
ST LOGO interpreter/language system  
VT52 terminal emulation via modem port  
Control panel for system customization  
RS232 configuration control  
Printer configuration control

## PHYSICAL

System dimensions:  
Minimum height 28mm, Maximum height 62mm,  
Width 470mm  
Depth 239mm  
Power supply: External (regulated)  
Low voltage power: +5V +/-5% 2A  
+12V +/-10% 30mA -12V +/-10% 30mA  
Mains: 117VAC +/-10% 60Hz

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